REMARKS

Claims 1-12 are pending in the Application. Claim 1 has been amended at lines 4-5 by changing "context service that allows" to "context service supporting one or a plurality of synchronous query and asynchronous callback context functions, which allows." The same change has been made to Claim 7, lines 4-5. Support for such amendment may be found in the Specification at page 8, lines 20-21.

Claims 1-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,807,423 to Armstrong et al. Applicants traverse as discussed below.

The Claimed Invention

The term "workflow" refers to the automatic routing of documents to users responsible for working on them. (*See, e.g.*, the TechEncyclopedia at TechWeb.com) As discussed in the Specification, a workflow management system includes a workflow engine that carries out automatic scheduling and activation of component tasks according to defined business process, while also providing formalisms through which business processes are defined. Prior art workflow systems are based on the desktop computing paradigm and employ a workspace metaphor to present tasks that are to be claimed and performed by human participants. Such tasks differ from tasks that are performed by software agents and are referred to as staff activities. (Specification, page 2, lines 16-23)

Prior art approaches have a number of disadvantages, including: (i) users are constrained to the desktop computing environment and do not have access to business processes when they are away from their desktop; (ii) a user is burdened to periodically inspect his or her workspace to check out pending staff activities; and (iii) prior art approaches allow for indirect and asynchronous communication, but do not allow for direct and synchronous exchanges among human participants,

which is very common in business environments. (Specification, page 3, lines 7-15)

Addressing these disadvantages, the claimed invention provides a system for pervasive enablement of business processes in which a workflow engine executing a business process model has access to a context service to allow context-aware applications to obtain user context information. An interaction controller, acting as a proxy for human participants in a workflow, determines an appropriate collaboration modality for a human participant, and one or more modality adapters encapsulate details of communicating with a specific collaboration modality to receive a task from the interaction controller and deliver the task in a modality-specific format. (Specification, page 5)

As shown in Figure 1, an interaction controller 1040 interfaces with a workflow engine 1030 and a context service 1050. The workflow engine 1030 executes the business process based on business process models 1010 and engages human partners through software agents 1100 and invoking software applications 1020 by dispatching various tasks to them. Acting as a proxy for all human participants in a workflow, the interaction controller 1040 receives specification of individual staff activities from the workflow engine 1030 and forwards the engine responses from human partners back to the workflow engine 1030. A staff activity specification contains information about the human partner instance intended to carry out the activity and the relevant messages. Upon receiving a staff activity specification, the interaction controller 1040 obtains context information of the partner instance from the context service 1050 and determines an appropriate collaboration modality for the partner instance. It uses an address book 1090 to look up the modality-specific address (*e.g.*, telephone number, email address, instant messaging identifier) based on the user name. It then establishes communication with the corresponding modality adapters (*e.g.*, instant messaging adapter 1060, short messaging service adapter 1070, or email

adapter 1080) and supplies it with all the information regarding the staff activity. (Specification, page 7, lines 8-27)

Rejection of Claims 1-12 Under 35 U.S.C. § 102(e)

Claims 1-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the instant messaging system taught by Armstrong et al. Applicants traverse as discussed below.

Independent Claims 1 and 7

The Examiner incorrectly determined that Armstrong et al. anticipate the features of independent Claims 1 and 7, from which the other claims depend. To begin, Armstrong et al. do not anticipate "a workflow engine that executes a business process model" (Claim 1, line 3; Claim 7, line 3), because the disclosure of Armstrong et al. does not teach a "business process," which is defined in the Specification of the claimed invention:

> A business process is "a procedure where documents, information or tasks are passed between participants according to defined sets of rules to achieve or contribute to an overall business goal". Participants of a business process may be human beings, Web services or other software agents. In particular, human beings form a very important part of many business processes. A great number of large-scale as well as small-scale business processes like product planning, software design, service after sales, travel request approval and candidate evaluation require the engagement of human participants.

(Specification at 2) Even though Armstrong et al. make a brief, passing reference to the use of their invention in a workflow context (Armstrong et al., column 8, line 66 through column 9, line 1, relied on in the Office Action at 3), they do not anticipate the "workflow engine that executes a business process model" of Claims 1 and 7. Similarly, even though Armstrong et al. teach the use of "rules

about who may contact the watched party," (Armstrong et al., column 4, lines 7-8, relied on in the Office Action at 3), Armstrong et al. do not teach the use of their invention in connection with "a procedure where documents, information or tasks are passed between participants according to defined sets of rules to achieve or contribute to an overall business goal." (Specification at 2, definition of "business process") Armstrong et al. do not anticipate application to a "business process," as that term is defined in the Specification.

In addition, Armstrong et al. do not anticipate "a context service supporting one or a plurality of synchronous query and asynchronous callback context functions, which allows context-aware applications to obtain user context information." (Claim 1, lines 4-6; *see also* Claim 7, lines 4-6) That is, in part, because the disclosure of Armstrong et al. does not teach "context-aware" applications, as that term is known in the art. (*See, e.g.*, Specification at 1) and, in part, because the disclosure of Armstrong et al does not teach a "context service" (Claim 1, line 4; Claim 7, line 4), which is defined in the Specification as

> allow[ing] context-aware applications to obtain user context information without having to worry about the details of context derivation and context management. It supports both synchronous query and asynchronous callback context functions, and allows for easy incorporation of new types of context data into the Context Service.

(Specification at 8, lines 18-22) (emphasis added) By contrast, synchronicity of communication is integral to the instant messaging system taught by Armstrong et al., where the availability of a party is "watched" at all times. (Armstrong et al., column 3, lines 47-65; column 4, lines 6-10; column 5, lines 1-9; column 6, lines 7-13 and 48-58; column 9, lines 64-67; column 10, lines 29-31; column 11, lines 53-62; and column 12, lines 53-62) (are relied on in the Office Action at 3, 4, and 5) Where the watching step taught by Armstrong involves synchronous

monitoring of users, separate steps are provided in Claims 1 and 7 for

synchronously or asynchronously (Claim 1, lines 4-5; Claim 7, lines 4-5):

(a) obtaining context information from a context service (Claim 1, lines 12-14;

Claim 7, lines 10-12); and (b) communicating with a user (Claim 1, lines 15-17;

Claim 7, lines 13-16). Thus, according to Armstrong et al., a "deferred message"

does not provide "asynchronous callback context functions" (Claim 1, line 5;

Claim 7, line 5) but instead refers to "a message that is delivered to the other

participant(s) only after explicit action on their part, e.g. e-mail and voice-mail."

(Armstrong et al., column 12, lines 57-59)

Furthermore, Armstrong et al. do not anticipate "an interaction controller

that acts as a proxy for one or more human participants in a workflow." (Claim 1,

lines 7-8; Claim 7, lines 8-9) This is, in part, because Armstrong does not teach a

the workflow engine executing a business process model, as discussed above.

Reference to the workflow engine requirement is integral to the interaction

controller requirement, because Claims 1 and 7 require that an interaction

controller be able to do the following:

> receive[] specification of individual staff
>
> activities from the workflow engine, and
>
> upon receiving a staff activity specification,
>
> obtain[] context information of a partner
>
> instance from the context service to determine an appropriate
>
> collaboration modality for the partner instance, and
>
> forward[] the engine responses from
>
> human partners back to the workflow engine, thereby handling
>
> individual interactions with human participants.

(Claim 1, lines 9-17; *cf.* Claim 7, lines 7-12)

Armstrong et al. do not anticipate the requirement of Claims 1 and 7 to

receive a task from the interaction controller and deliver it in the proper format:

<u>one or more modality adapters</u> that encapsulate details of communicating with a specific collaboration modality <u>to receive a task from the interaction controller</u> and deliver the task to said partner instance in a modality-specific format. (Claim 1, lines 18-21; *cf.* Claim 7, lines 13-17)

Dependent Claims

The rejection of Claims 2-6 and 8-12 is traversed on the grounds that these claims are dependent from allowable base claims and should, therefore, be allowed. In addition, with regard to Claims 3 and 11, the Examiner is incorrect to conclude (Office Action at 4, 5) that Armstrong et al. teach "wherein said dynamic context information includes a human participant's . . . activity . . . ." (Claim 3, lines 1-3; Claim 11, lines 1-3) Armstrong et al. do not teach inclusion of information about what a user is doing.

Conclusion

In view of the foregoing, it is respectfully requested that the application be reconsidered, that Claims 1-12 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Deposit Account 50-0510 (IBM-Yorktown).

Respectfully submitted,
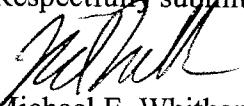
Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis & Christofferson, P.C.
11491 Sunset Hills Road, Suite 340
Reston, Virginia 20190
Tel. (703) 787-9400
Fax. (703) 787-7557
Customer No.: 30743